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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,945	06/27/2003	Hee-Gyoun Lee	1014-SP219	8700
34456	7590	02/15/2005	EXAMINER	
TOLER & LARSON & ABEL L.L.P. 5000 PLAZA ON THE LAKE STE 265 AUSTIN, TX 78746			COOKE, COLLEEN P	
			ART UNIT	PAPER NUMBER

1754

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/607,945

Applicant(s)

LEE ET AL.

Examiner

Colleen P Cooke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on papers filed on 10/1/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 1-33 and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-43 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

This application contains claims 1-33 and 43 drawn to an invention nonelected with traverse over the telephone on 6/15/04. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33-38 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritzemeier et al. (20020144838), in view of Fujikami et al. (6271474).

Fritzemeier et al. teaches (see Figure 1A generally) making a superconducting tape by providing a substrate (12a), depositing a buffer layer (14a) on the substrate (page 11, paragraph 0120), depositing a superconductor layer over the buffer layer (page 11, paragraph 0121), and further depositing a “stabilizer” layer (18a) which may be copper over the superconductor layer (page 11, paragraph 0122). As Fritzemeier et al. teaches the layer may be copper, it is electrically conductive and therefore could function as an electrical shunt to bypass current. Fritzemeier et al. is silent as to by what process the “stabilizer” layer is deposited, and therefore does not teach that it is electroplated.

Fujikami et al. teaches a superconducting wire having a “stabilizer” layer which is preferably copper and is deposited by electroplating (Column 8, lines 3-12). Further, Fujikami et al. teaches in one specific example that the electroplating is performed by passing the wire through aqueous copper sulfate solution using the superconducting wire as the cathode and a provided plate as the anode (Column 23, lines 15-22).

Regarding claims 40-42, the electroplating process would necessarily deposit the “stabilizer” layer of copper onto the entire exposed surface of the superconductor unless measures were taken otherwise. In addition, Fujikami et al. shows with regards to the example referred to above, in Column 23, lines 15-22 and 27-35, that the layer 163 is deposited on all exposed surfaces of the superconductor in Figure 16. Although this example depicts a wire having circular cross-section, the result of the process would be the same on a tape of rectangular cross-section.

It would have been obvious to modify the method of making a superconductor by electroplating the copper onto the superconductor because Fujikami et al. teaches this process is preferred (Column 8, lines 8-10 specifically) for depositing copper onto a superconductor.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fritzemeier et al. (20020144838) in view of Fujikami et al. (6271474) as applied to claims 34 and 35 above, and further in view of either of Moehle et al. (6187166) or Hoover et al. (4560445).

Although Fritzemeier et al. and Fujikami et al. teach the method of making the superconductor as described with respect to claims 34 and 35 above, neither reference

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specifically teaches the use of a reel-to-reel electroplating process to deposit the copper onto the superconductor.

Either one of Moehle et al. or Hoover et al. teaches performing electroplating of copper onto a substrate by the reel-to-reel system of electroplating (see Column 2, lines 38-53 of Moehle et al. or Column 15, lines 22-30).

It would have been obvious to modify the method of making a superconductor by electroplating the copper using a reel-to-reel electroplating because either of Moehle et al. or Hoover et al. teaches that this is a method to be used for electroplating copper, and further with regards to Moehle et al. that this method is further of use for electroplating a continuous length article which will constitute the cathode in the process (Column 2, lines 38-39 specifically).

### ***Response to Arguments***

Applicant's arguments filed 10/1/04 have been fully considered but they are not persuasive.

In response to applicant's argument that Fujikami et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Fujikami et al. is in the field of applicant's endeavour, which is that of superconducting tapes, and is also reasonably pertinent to the particular problem of providing an additional coating(s) to a superconductor. The fact that the applicant argues that the instant invention along with the invention of Fritzemeier et al. are

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“poised to entirely replace” the invention of Fujikami et al. does not demonstrate that one of ordinary skill in the art would not look to the teachings of Fujikami et al. but instead seems to imply the exact opposite as the development of new and improved superconductor technology must surely build upon existing superconductor technology.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The applicant argues, with respect to Fujikami et al., that electroplating is used to form an insulating layer. However, Fujikami et al. teaches that electroplating is used to form a *metal* coating (Column 8, lines 3-10 which refer to coatings of copper as well as tin and lead), which inherently is conductive and not insulating. Although Fujikami et al. later teaches that this copper layer *may* be oxidized to provide an insulating layer (Column 8, lines 24-28), this is relevant to the particular article and its use as taught by Fujikami et al. but not to the specific rejection made. In the rejection made, Fritzemeier et al. is the primary reference and provides the teaching of a copper layer (cap layers 18a and 18b, which are conductive metal and are not oxidized). The limitation Fritzemeier et al. does not teach is how the copper layer is formed; Fritzmeier et al. is silent as to the process of forming the layer. Fujikami et al. is the secondary reference and is relied upon to teach that electroplating is a known method in the art for forming a copper layer on a superconductor. This is true regardless of any further processing such as oxidation of the electroplated copper layer taught by Fujikami et al. Thus a proper combination of the references does make the claimed invention obvious and the rejection is being maintained.

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The applicant does not argue the teachings of Moehle et al. or Hoover et al. as applied to claim 39 and therefore this rejection is being maintained.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

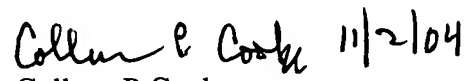
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colleen P Cooke whose telephone number is 571-272-1170. She can normally be reached Mon.-Thurs. 8am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, her supervisor, Stan Silverman can be reached at 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Colleen P Cooke  
Examiner  
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